

The Effect of Data Integration to the Smart City

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Abstract : Smart cities are a vision for the future that is increasingly becoming a reality. While a key concept of the smart city is the ability to capture, communicate, and process data that has long been produced through day-to-day activities of the city, much of the assessment models in place neglect this fact to focus on 'smartness' concepts. Although it is true technology often provides the opportunity to capture and communicate data in more effective ways, there are also human processes involved that are just as important. The growing importance with regards to the use and ownership of data in society can be seen by all with companies such as Facebook and Google increasingly coming under the microscope, however, why is the same scrutiny not applied to cities? The research area is therefore of great importance to the future of our cities here and now, while the findings will be of just as great importance to our children in the future. This research aims to understand the influence data is having on organisations operating throughout the smart cities sector and employs a mixed-method research approach in order to best answer the following question: Would a data-based evaluation model for smart cities be more appropriate than a smart-based model in assessing the development of the smart city? A fully comprehensive literature review concluded that there was a requirement for a data-driven assessment model for smart cities. This was followed by a documentary analysis to understand the root source of data integration to the smart city. A content analysis of city data platforms enquired as to the alternative approaches employed by cities throughout the UK and draws on best practice from New York to compare and contrast. Grounded in theory, the research findings to this point formulated a qualitative analysis framework comprised of: the changing environment influenced by data, the value of data in the smart city, the data ecosystem of the smart city and organisational response to the data orientated environment. The framework was applied to analyse primary data collected through the form of interviews with both public and private organisations operating throughout the smart cities sector. The work to date represents the first stage of data collection that will be built upon by a quantitative research investigation into the feasibility of data network effects in the smart city. An analysis into the benefits of data interoperability supporting services to the smart city in the areas of health and transport will conclude the research to achieve the aim of inductively forming a framework that can be applied to future smart city policy. To conclude, the research recognises the influence of technological perspectives in the development of smart cities to date and highlights this as a challenge to introduce theory applied with a planning dimension. The primary researcher has utilised their experience working in the public sector throughout the investigation to reflect upon what is perceived as a gap in practice of where we are today, to where we need to be tomorrow.

Keywords : data, planning, policy development, smart cities

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